

FILIMONOV, V.A.

Beta-decay of Λ -hyperons and the spins of light hyper-nuclei.
Izv.vys.ucheb.zav.; fiz. no.3:89-97 '63. (MIRA 16:12)

1. Nauchno-issledovatel'skiy institut pri Tomskom politekhnicheskoy
institute imeni S.M.Kirova.

FILIMONOV, V.A.

Decay of the $\Sigma^+ p$ hypernucleus. Zhur. eksp. i teor. fiz. 45
no.6:1954-1959 D '63. (MIRA 17:2)

1. Institut yadernoy fiziki, elektroniki i avtomatiki Tomskogo
politeknicheskogo instituta.

KAS. UNICHT, A.P.; PILINOV, V.A.

Laboratory apparatus for studying the high-speed pyrolysis of
solid material in the gas suspension of a solid heat carrier.
Inpol'. tverd. topl., ser. maz. i gasa no. 5:107-112 '64
(MIRA 19:2)

ACC NR: AT7006846

SOURCE CODE: UR/0000/66/000/000/0101/0110

AUTHOR: Pechuro, N. S. (Professor, Doctor of technical sciences); Pesin, O. Yu.;
Filimonov, V. A.

ORG: none

TITLE: Effect of electrode diameter and stock circulation on the decomposition of
liquid hydrocarbons in electric discharges

SOURCE: Moscow. Eksperimental'nyy nauchno-issledovatel'skiy institut metalloraz-
rushchikh stankov. Khimicheskiye reaktsii organicheskikh produktov v elektricheskikh
razryadakh (Chemical reactions of organic products in electric discharges). Moscow,
Izd-vo Nauka, 1966, 101-110

TOPIC TAGS: electrocracking, arc discharge, petroleum product, hydrocarbon

ABSTRACT: The effect of outer and inner electrode diameter and stock circulation on
the electrocracking of a petroleum product was studied under both stationary and
dynamic conditions in a low-voltage alternating-current arc. The quantity of stock
was varied from 0 to 17.0 liters/min, and the power of the arc discharge from ~0.4
to 4.0 kW. It was found that an increase in the amount of circulating stock and
inner electrode diameter and a decrease in the outer diameter permit an increase in
the yield of gas per unit time and the acetylene content of the gas. It is shown
that the influence of D, d and Q manifests itself in a change of the volume velocity

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ACC NR: AT7006846

of the stock in the interelectrode gap; this velocity determines the power of the arc and the yield and composition of the gas. An increase in the volume velocity decreases the specific consumption of electric energy per mm^3 of C_2H_2 ; under optimum conditions, this value amounts to ~ 7.6 kW hr at an acetylene concentration of $\sim 36-37\%$. Orig. art. has: 4 figures, 7 tables and 1 formula.

SUB CODE: 11, 07 SUBM DATE: none/ ORIG REF: 003

Card

2/2

FILIMONOV, V.G. (MOSKVA)

Conditioned reflex chamber for the study of higher nervous activity
in rats by defense methods. Pat.fiziol. i eksp.terap. 3 no.6:64-65
N-D '59. (MIRA 13:3)

1. Iz kafedry patologicheskoy fiziologii (zaveduyushchiy S.M. Pav-
lenko) i Moskovskogo ordena Lenina meditsinskogo instituta imeni
I.M. Sechenova.

(CENTRAL NERVOUS SYSTEM physiol.)
(REFLEX CONDITIONED)

FILIMONOV, V.G.

Method of electrode implanation in the nerve for reading
biopotentials in a chronic experiment. Fiziol. zhur. SSSR
46 no. 9:1165-1167 S '60. (MIRA 13:10)

1. From the Chair of Pathological Physiology, Sechenov First
Medical Institute, Moscow.
(ELECTROPHYSIOLOGY)

FILIMONOV, V.G. (Moskva)

Technology of fising "AKR-7" plastic in making an electrode holder
for recording cerebral currents.. Pat.fiziol.i eksp. 5 no.1:70-72
Ja-F '61. (MIRA 14:6)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. S.M.Pavlenko).
I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.
Sechenova.

(ELECTROENCEPHALOGRAPHY) (ACRYLIC RESINS)

SUCHKOV, V.V.; FILIMONOV, V.G.

Multichannel photoelectronic rheograph. Fiziol. zhur. 47 no.11:
1434-1439 N '61. (MIRA 14:11)

1. From the Laboratory for Physiology of Abnormal Bodily Reactivity,
I.M.Setchenov Medical Institute, Moscow.
(BLOOD...CIRCULATION) (LABORATORIES...APPARATUS AND SUPPLIES)

FILIMONOV, V.G. (Moskva)

Device for recording respiration. Pat. fiziol. i eksp. terap. 6
no.374-75 My-Je'62 (MIRA 17:2)

1. Iz laboratorii po izucheniyu reaktivnosti pri kafedre pato-
fiziologii (zav. - prof. S.M. Pavlenko) I Moskovskogo ordena
Lenina meditsinskogo instituta imeni I.M. Sechenova.

FILIMONOV, V.G. (Moskva)

Modified electrophysiological indices of the cerebral cortex,
hypothalamus and vagus nerve under the influence of sensiti-
zation of the body. Pat. fiziol. i eksp. terap. 6 no.6:45-51
N-D'62 (MIRA 17:3)

1. Iz laboratorii po izucheniyu reaktivnosti organizma pri
kafedre patofiziologii (zav. - zasluzhennyy deyatel' nauki
RSFSR prof. S.M. Pavlenko) I Moskovskogo ordena Lenina medii-
tsinskogo instituta imeni Sechenova.

FILIMONOV, V.G. [Filimonov, V.H.]

Photostimulator for electroencephalographic studies. Fiziol. zhur.
[Ukr.] 10 no.3:411-413 My-Je '64. (MIRA 18:9)

1. Kafedra patologicheskoy fiziologii 1-go Moskovskogo meditsinskogo
instituta im. Sechenova.

ABINDER, A.A.; FILIMONOV, V.G.

Effect of the changed state of the nervous system on the development of protein sensitization of the organism. Pat. fiziol. i eksp. terap. 9 no.3:76-77 My-Je '65. (MIRA 18:9)

1. Kafedra patofiziologii (zav.- prof. S.M. Pavlenko) I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

GRABINO, M.G., inzhener; FILIMONOV, V.G., inzhener.

Iron powder production for metal-ceramic parts. Vest.mash.27 no.11:
54-60 N '47. (Powder metallurgy) (MIRA 9:4)

FILIMONOV, V. G.

B

On the Strength and Plasticity of Iron Powder Compacts. I. M. Fedorchenko, V. G. Filimonov, and M. G. Grabino. Henry Bratcher (Altadena, Calif.). Translation No. 2041, 16 pages. From *Vestnik Mashinostroeniya* (Machine Construction News), v. 27, no. 8, 1947, p. 35-43.

Gives results of an experimental study of the true nature of differences in physical and mechanical properties between sintered powdered metals and cast metals. Influences of powder-production processes and of densities obtained on compacting on mechanical properties of iron-powder parts are described. Test results are evaluated and correlated with R. P. Koehring's data.

U.S.-S.A. METALLURGICAL LITERATURE CLASSIFICATION

STEEL **IRON** **COPPER** **NICKEL** **TITANIUM** **ZINC** **ALUMINUM** **MAGNESIUM** **SILICON** **GLASS** **CERAMICS** **POLYMERS** **COMPOSITES** **OTHER**

FILIMONOV, V. G.

TA 2/4-TA5

USSR/Engineering

Jul 48

Machinery - Construction
Metallurgy, Powder

"Mechanization of the Process of Pressing
Parts From Iron Powder," V. G. Filimonov,
Ingr, 4 pp

"Vest Mashinostroy" No 7

Discusses basic construction of mechanical
and hydraulic presses. Mechanical presses
are easier to operate and are performing
satisfactorily in production of small-size
parts. Describes basic principles and
operations of the mechanical press.

2/49745

USSR/Engineering (Contd)

Jul 48

Includes sketches of press parts.

2/49745

File number V G

414. Filimancy, V. G. Construction of curves of true stress
from tests of porous metal-ceramic specimens (in Russian). Zhurav
Lab. 21; 1, 82-84, 1955; Ref. Zh. Mekh. 1956, No. 5002

In order to determine the true stresses during compression of a
metal-ceramic porous material on the basis of the test results
elements, the following formula is recommended:

In which P is the compressing force, F is the original cross
section, and e is the axial deformation.

(Courtesy Ref. Zh. Mekh.)
Translation, courtesy of Ref. Zh. Mekh., 1956

4
4E3d
4E2c

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FILIMONOV, V.G.

"Using metal ceramics in machinery industry" by V.S. Rakovskii,
V.V. Saklinskii. Reviewed by V.G. Filimonov. Vest. mash. 37
no. 6:89-91 Je '57. (MIRA 10:7)
(Powder metallurgy) (Cermets)
(Rakovskii, V.S.) (Saklinskii, V.V.)

V.G. FILIMONOV

Influence of impregnation on compression strength of
slatered iron. V. G. Filimonov (Dnepropetrovsk Metallurgical
Inst. 30, No. 1, 1964, pp. 1-4). ~~Abstract~~ specimens made of
Fe powder (sp. gr. 7.8) compressed and sintered at 1100°C
were impregnated for 1 hr with 20 mm of oil
and examined in compression. The specimens
were tested at room temp., both in the original
sintered state. A diagram plotted for Fe with 20% impregnation
shows that impregnation lowers the compression strength of
the metal inversely proportional to the fluidity of the im-
pregnant at room temp. The reduction in strength for
these impregnants was, resp., 8, 40, and 85%.

J. D. Gut

of 1/11/64

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25241 3/122/60/000/002/014/018
A161/A130

AUTHOR: Fillimonov, V. G.

TITLE: Producing porous bimetal and other two-layer sintered articles

PERIODICAL: Vestnik mashinostroyeniya, no. 2, 1960, 68 - 71

TEXT: The existing technology of making of timetal parts (e.g., bearing bushings) is slow because of several pressing operations and hand-operated press molds, and the bond between layers is weak, for the layers are pressed separately. A new method consists in the use of a special mold filling device (Fig. 1) which is composed of a case casing (1), an internal cone (2), a centring crosspiece (3) and a dividing cylinder (4). The crosspiece is fixed by brazing or welding in cuts of the cone (2), then together with the cone (2) in the case casing. The dividing cylinder (4) has four slots on the bottom side for setting on the crosspiece. The whole filling device is installed on the tray of a stationary press mold, in guides (6). Two different powders are filled into spaces inside and outside the dividing cylinder. A set of dividing cylinders enables different combinations of metal layer thicknesses to be attained. The different powders are filled into the die and pressed simultaneously, and the bond between the layers is as strong as in

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25241 S/122/69/000/012/014/018
A161/A130

Producing porous bimetal and other...

single metal. The dividing cylinder diameter is found by known as well as the inner and outer diameters of the die, the thickness of one layer, and the running capacity of the two metal powders. When their running capacity is not the same, the dividing cylinder diameter formula is

$$T_a l_a = T_b (A + l_a), \quad (1)$$

from which it follows that

$$l_a = \frac{A}{1 + \frac{T_a}{T_b}} \quad (2)$$

where T_a is the running capacity of powder a in g/sec; T_b - the same of the powder b; l - the space between the inner die diameter and the inner diameter of the dividing cylinder, in cm; A - the wall thickness of the pressing (or the die cavity width), in cm. For convenience l can be expressed in diameters. Then the mean diameter of the dividing cylinder for obtaining an inner layer with thickness h_a from the powder a must satisfy the relation

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Producing porous bimetal and other...

$$D_{\text{ca}} = d_{\text{ch}} + \frac{2A}{1 + \frac{\pi a}{\pi b}} \quad (3)$$

where D_{ca} is the mean diameter of the dividing cylinder in cm; d_{ch} - the inner diameter of the die cavity in cm. If $h_a \neq h_b$, when the internal powder a layer must be n times thinner than the outer b layer:

$$D_{\text{ca}} = d_{\text{ch}} + \frac{2A}{1 + \frac{n\pi a}{\pi b}}$$

and if the powder b layer has to be n times thinner than the a powder layer:

$$D_{\text{ca}} = d_{\text{ch}} + \frac{2A}{1 + \frac{\pi a}{n\pi b}} \quad (5)$$

A practical calculation example is included. The calculated diameter needs corrections (because of the shaking of the die on the working press, heterogeneity of

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252h1

3/122/60/000/002/014/018
A161/A130

Producing porous bimetal and other...

the powder, different surface finish of the die, etc.). Bimetal bushings have been manufactured using this method, part of them with the inner layer of copper and the outer from iron, baked in 1,000°C in generator gas. The layers could not be separated in tests. As it is difficult to obtain a firm iron layer with an inner bronze layer (because of two different melting points), the following process is recommended for this case: 1) To press the bimetal bushings so as to reach a porosity 5 - 7% higher than final wanted; 2) sinter at bronze sintering point (800 - 900°C) for 2 h; 3) compress the bushings to final dimensions and porosity; 4) sinter again for 2 h at the same temperature. The resulting bond is not weaker than in bushings produced using the conventional technology and 1,200°C for sintering. The first pressing is to be performed in the described charging device, and the concentric second pressing (after first sintering) in a special die, in the following way. The presintered bushing is to be placed between cams; a top cross-arm lowered to make a shell exert pressure on the cams that will press on a bushing; the bushing will be compressed and densened. When the crossarm descends further, the cams stay immobile, and a top punch will reach the bushing and push it down together with the center core into a die cavity until it thrusts at a bottom punch. The ready bushing is ejected by the bottom punch from pressure exerted by a piston.

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252h1

S/122/60/000/002/014/018

A161/A130

Producing porous bimetal and other...

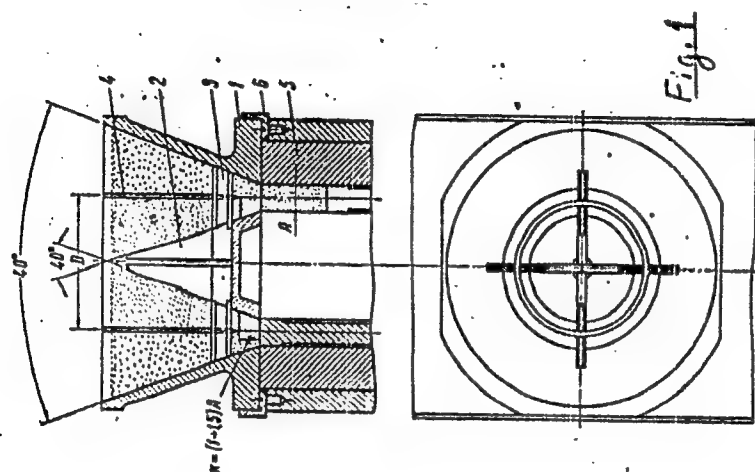
When the crossarm retracts, the cams are released and returned into initial position by leaf springs. The installing of bushings into the die and the ejection can be automated. There are 4 figures and 2 Soviet-bloc references.

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252L1 S/122/60/000/002/014/018

Producing porous bimetal and other...

Fig. 1.



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RAKOVSKIY, V.S.; SAKLINSKIY, V.V.; ~~ELIMONOV, V.G.~~, inzh., retsenzent;
MARTENS, S.L., inzh., red.; GORDEYEVA, L.P., tekhn. red.

[Powder metallurgy in the machinery industry] Poroshkovaia
metallurgiya v mashinostroenii; spravochnik. 2 izd., ispr.
i dop. Moskva, Mashgiz, 1963. 101 p. (MIRA 16:8)
(Powder metallurgy--Handbooks, manuals, etc.)

ACCESSION NR: AP4042898

5/0119/64/000/007/0010/0012

AUTHOR: Kalatozishvili, N. I. (Candidate of technical sciences);
Filimonov, V. N. (Engineer)

TITLE: Remote discrete liquid-level gauge

SOURCE: Priborostroyeniye, no. 7, 1964, 10-12

TOPIC TAGS: level gauge, liquid level gauge, remote level gauge, discrete level gauge

ABSTRACT: A remote measuring device consists of a photoconverter sensor and a decoder receiver with digit indication. The continuous variation in the liquid level is converted into a binary-decimal code which is transmitted over a 2-wire circuit. A self-explanatory sketch of the sending end is given in Enclosure 1. A laboratory model of the device "was built and tested." Orig. art. has: 2 figures.

ASSOCIATION: Institut elektroniki, avtomatiki i telemekhaniki AN GruzSSR
(Institute of Electronics, Automation and Telemechanics, AN GruzSSR)

SUBMITTED: 00

ENCL: 01

SUB CODE: IE

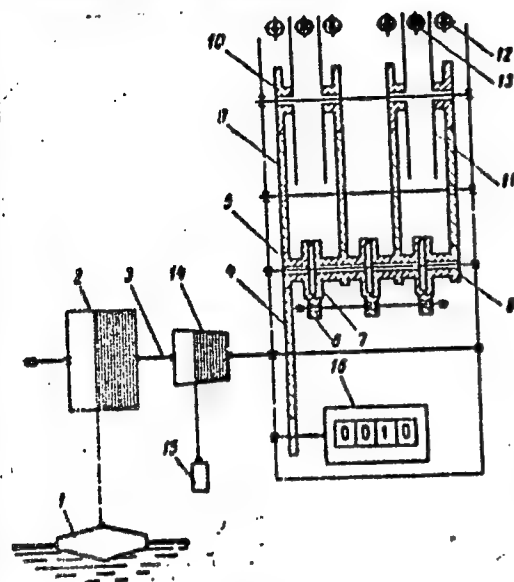
NO REF SOV: 001

OTHER: 000

Card 1/2

ACCESSION NR: AP4042898

ENCLOSURE: 01



A sensor for digital remote level indication

- 1 - float
- 2 - drum
- 3 - shaft
- 4 - 5 - 9 - 10 gear (pinions)
- 11 - perforated disk
- 12 - photodiodes
- 13 - lamp
- 14 - counterweight conical drum
- 15 - counterweight

Card

2/2

... ..

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... .. Corrosion of aircraft parts and its prevention

... .. Vestnik protivovozdushnoy oborony, no. 3, 1964, 55-58

... .. prevention of metal corrosion is
... .. effects of atmosphere, chemical reactions heated from

PROCESSED NR: A25008122

are cleaned of the disintegration products and covered with proper primer, varnish, enamel, or lubricant. Magnesium alloys require special treatment: the oxidation film on the metal surface is restored before painting to prevent a direct contact with paint and to achieve a strong adhesion.

NOTE: none

END OF

PA 100 11/17/77

OTHER: 1/1

FILIMONOV, V. N. --

FILIMONOV, V. N. -- "Investigation of the Interaction of Molecules with Electron-Acceptor Catalytic Agents Using the Method of Infra-Red absorption Spectra." Leningrad Order of Lenin State University A. A. Zhdanov. Leningrad, 1955. (Dissertation for the Degree of Candidate in Physicomathematical Sciences)

SO: Knizhnaya Letopis', No 1, 1956, pp 102-122, 124

the surface OH groups... kinds of...
tant in the adsorption of... kinds of...
cont. electron-donor atoms... are adsorbed on the OH
(amines, heterocyclic comp... bond that is formed brings
groups of the surface. The... of the electron d. in the ads.
... of the redistribution of the electron d. in the ads.
... Rostov Leach

USSR/Optics - Spectroscopy

K-6

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 13043

Author : Filimonov, V.N., Terenin, A.N.

Inst : Leningrad State University, USSR.

Title : Infrared Spectra of Absorption of Complexes of Several Organic Compounds with Aluminum Bromide and Tin Tetrachloride.

Orig Pub : Dokl. AN SSSR, 1956, 109, No 4, 799-801

Abstract : An investigation was made of the variation of the infrared spectra of absorption of certain organic compounds, occurring when $AlBr_3$ and $SnCl_4$ are dissolved in them. The frequency of the valent vibration of $C=O$ acetone is reduced by 165 cm^{-1} . The structure of the overtone band $C-H$ of diethyl-ether experiences changes analogous to the changes in it upon interaction of the ether

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Card 2/2

"APPROVED FOR RELEASE: 06/13/2000

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APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000413030009-1"

Fillimonov, V.N.

51-5-6/11

AUTHORS: Fillimonov, V.N., Bystrov, D.S. and Terenin, A.N.

TITLE: Infra-red Spectra of Molecular Compounds with Metal Halides
(Infra-krasnye spektry molekulyarnykh soyedineniy s galogeni-
dami metallov)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr 5,
pp.480-494 (USSR).

ABSTRACT: Infra-red absorption spectra of molecular compounds, NO, acetonitril, pyridine, cyclohexane, acetone and methanol with AlBr_3 , AlCl_3 and SnCl_4 were investigated in the region 8000 to 700 cm^{-1} . The work was carried out on an infra-red spectrometer of type MKC-11 with prisms of LiF and NaCl and an autocollimating spectral instrument of high dispersion using glass prisms. Pronounced changes in the spectra of molecules to which metallic halogens (AlBr_3 , AlCl_3 and SnCl_4) become attached, show that a donor-acceptor bond is established between them. The frequency changes are quite pronounced and form a direct evidence supporting the above hypothesis. Detailed absorption curves of the substances and frequency

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51-5-6/11

Infra-red Spectra of Molecular Compounds with Metal Halides.

tables are given. There are 10 figures, 8 tables and 29 references, many of which are Slavic.

ASSOCIATION: Scientific and Research Institute of Physics of the Leningrad State University (Nauchno-issledovatel'skiy fizicheskiy institut, Leningradskogo gosudarstvennogo universiteta)

SUBMITTED: May 17, 1957.

AVAILABLE: Library of Congress.

Card 2/2

FILIMONOV, V., ^{N.} and ^[N.]TERENIN, A., Leningrad.

"Hydrogen Bond Between Adsorbed Molecules and Structural Oh-Groups At The Surface of Solids," report submitted at IUPAP Symposium on Nature of Hydrogen Bonding, Ljubljana, Yugoslavakis, 30 July - 3 Aug 57.

also in Vestnik AN SSSR, 1957, No. 11, pp.137-139, "An Intl. Symposium on the Hydrogen Bond in Ljubljana," by Vol'kenshteyn, M.V.

Trans. Encl. B-9,096,177, 20 Jan 58.

Filimonov, V.N.

51-4-3-7/30

AUTHORS: Royev, L.M., Filimonov, V.N. and Terenin, A.N.

TITLE: Changes in the Infrared Spectrum of Molecules on Interaction with Adsorption Centres of an Aluminium Silicate Catalyst. (Izmeneniya infrakrasnogo spektra molekul pri ikh vzaimodeystvii s tsentrami adsorbtsii alyumosilikatnogo katalizatora.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3, pp.328-334 (USSR)

ABSTRACT: The present paper forms part of a cycle of investigations on application of the infrared spectra to the study of adsorption and catalysis which was started in 1940 (Ref.1). The present paper reports measurements of the infrared absorption spectra of ammonia and acetonitrile adsorbed on an aluminium silicate catalyst and on silica gel. The aluminium silicate catalyst contained about 10% of Al_2O_3 and had a specific surface area of 400 m^2/g . The specific surface area for silica gel was about 500 m^2/g . Both adsorbents were in the form of powders placed between two plates of LiF or NaCl. Thickness of an adsorbent layer was about 10 mg/cm^2 . In some tests

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51-4-3-7/30

Changes in the Infrared Spectrum of Molecules on Interaction with
Adsorption Centres of an Aluminium Silicate Catalyst.

porous glass plates, 0.5 mm thick, were used. ²These glass plates had a specific surface area of 100 m²/g. Before measurements the adsorbents were heated for 2 hours in air at 600°C and for 1 1/2 hours in 10⁻⁴ mm Hg vacuum at 450°C. Adsorption of ammonia and acetonitrile vapours and recording of spectra were carried out using a vacuum cell described in Ref.9. Infrared spectrometers IKS-2 and IKS-11 with LiF and NaCl prisms were used. Fig.1 gives the absorption band of OH groups on the surfaces of the aluminium silicate catalyst (curve 1) and silica gel (2) after vacuum treatment and before adsorption of the vapours studied (both adsorbents were immersed in CCl₄). Fig.2 gives the absorption spectra of the aluminium silicate catalyst (curve 1) and silica gel (2) with ammonia adsorbed on them and after immersion in CCl₄. Fig.3 gives the change in the absorption spectra of the aluminium silicate catalyst on adsorption of acetonitrile; curve 1 represents the vacuum-dried adsorbent, curve 2 shows the adsorbent with acetonitrile, curve 3 shows the same adsorbent as in

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51-4 -3-7/30

Changes in the Infrared Spectrum of Molecules on Interaction with Adsorption Centres of an Aluminium Silicate Catalyst.

curve 2 after evacuation of acetonitrile. Fig.4 gives the change in the absorption spectra of porous glass on adsorption of acetonitrile; curve 1 represents the adsorbent by itself, curve 2 represents the adsorbent with acetonitrile, curve 3 represents the adsorbent of curve 2 after evacuation of acetonitrile. The results obtained show a lowering of the frequencies of the valence vibrations of N—H of ammonia and an increase of the frequency of $\text{C}\equiv\text{N}$ of acetonitrile on adsorption. These changes in frequencies are greater in the case of adsorption on the aluminium silicate catalyst than on adsorption on silica gel. Change of the frequencies of ammonia and acetonitrile on adsorption on the aluminium silicate catalyst are similar in their sign to the changes of frequencies of the same molecules when the latter are attached to a non-protonic catalyst (such as AlCl_3). Adsorption of molecules on carefully vacuum-treated samples of the aluminium silicate catalyst is not accompanied by attachment of the catalyst protons to the adsorbed molecules. The authors thank A.N. Sidorov for help in this work.

Card 3/4

51-4-3-7/30

Changes in the Infrared Spectrum of Molecules on Interaction with Adsorption Centres of an Aluminum Silicate Catalyst.

There are 4 figures, 1 table and 18 references, of which 9 are Soviet, 5 American, 1 German, 1 French, 1 English and one translation of a Western work into Russian.

ASSOCIATION: Physic Research Institute, Leningrad State University.
(Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta.)

SUBMITTED: May 17, 1957.

1. Infrared spectra--Applications 2. Ammonia--Absorption
--Spectrographic analysis 3. Acetonitrile--Absorption--Spec-
trographic analysis 4. Aluminum silicate catalyst--Adsorptive
properties 5. Silica gel--Adsorptive properties

Card 4/4

SOV/51-5-6-16/19

AUTHOR: Filimonov, V.N.

TITLE: Electronic Absorption Bands of ZnO and TiO₂ in the Infrared Region
(Elektronnyye polosy pogloshcheniya ZnO i TiO₂ v infrakrasnoy oblasti spektra)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 6, pp 709-711 (USSR)

ABSTRACT: Many semiconductors absorb in the infrared region. This absorption is due to electron transitions between energy levels in the conduction band and due to transitions from local levels into the conduction band or from a filled band to local levels. Such absorption is not observed in ZnO under normal conditions. The author shows that infrared absorption may be observed in ZnO when adsorbed oxygen is removed from the sample surface. Experiments were made on ZnO produced by decomposition of Zn oxalate (Ref 2). ZnO powder was compressed between 2 NaCl plates; the sample thickness was 5-10 mg/cm². Samples were placed in a cell which could be evacuated down to 10⁻³ mm Hg. An IKS-14 infrared spectrometer with LiF and NaCl prisms was used. It was found that evacuation of air at room temperature did not affect transmission by ZnO in the infrared region. Irradiation with ultraviolet light from a mercury lamp SVDSH-250-3 was found to produce infrared

(Card 1/3)

SOV/51-5-6-16/19

Electronic Absorption Bands of ZnO and TiO₂ in the Infrared Region

absorption in ZnO (Fig 1, where the ordinate represent the ratio of transmissions before and after ultraviolet irradiation). This absorption remains when ultraviolet irradiation ceases. When air or oxygen is let into the cell the sample recovers its former transmission. The observed effects are ascribed to the presence of adsorbed O₂ on ZnO under the usual conditions and removal of O₂ by ultraviolet radiation. Similar effects are observed on adsorption of NO and nitromethane (CH₃NO₂) on ZnO, but water vapour does not affect the infrared absorption of ZnO. This is shown in Fig 2, where the effects of air, nitromethane and D₂O vapour are represented by curves a, b and v respectively. The infrared absorption band in ZnO is due to increase in the number of conduction electrons on removal of O₂ and other substances and due to transitions in the conduction band. Infrared absorption, which disappears in the presence of air, was also observed on heating or illumination in the region of intrinsic absorption of fine-grained samples of TiO₂ in vacuo. The absorption

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SOV/51-5-6-16/19

Electronic Absorption Bands of ZnO and TiO_2 in the Infrared Region

band in this case has the form shown by the lower curve in Fig 1 and it may be due to superposition of absorption due to transition of electrons from local levels. The author thanks A.N. Terenin for his interest. There are 2 figures and 6 references, 4 of which are Soviet and 2 translations.

SUBMITTED: June 21, 1958

Card 3/3

AUTHORS: Terenin, A. N., Filimonov, V. N.,
Bystrov, D. S.

SOV/48-22-9-23/40

TITLE: Infrared Absorption Spectra of Molecular Compounds of Metal Halides (Infrakrasnyye spektry pogloshcheniya molekulyarnykh soyedineniy s galogenidami metallov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 9, pp 1100 - 1102 (USSR)

ABSTRACT: This is an investigation of the infrared absorption spectra of the molecular compounds of NO, acetonitrile, pyridine, acetaldehyde, acetone, chloro acetyl ethyl acetate, diethyl ether, methanol and cyclohexane with AlBr_3 , AlCl_3 , SnCl_4 and some other metal halides. The majority of these molecular compounds was investigated in solid state. They were produced by the sorption of the vapors of organic compounds and of the gaseous NO which was sublimated through the halide layer. A description of the experimental method and part of the results were published already in reference 1. A somewhat more pronounced

Card 1/2

Infrared Absorption Spectra of Molecular Compounds
of Metal Halides

SOV/48-22-9-23/40

shift of the frequency indicates that these metal halides possess better electron acceptor properties than protonic acids. The modifications in the infrared spectrum clearly indicate that the addition of metal halides to organic molecules can lead to the same modifications in these molecules as can the addition of a proton. This means that the halides of Al, Sn, Ti and Fe behave as strong acids even in the absence of the respective hydrogen halides. There are 7 references, 1 of which is Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gos.universiteta im.A.A.Zhdanova (Scientific Research Institute of Physics of the Leningrad State University imeni A.A.Zhdanov)

Card 2/2

PLATE 1. BOKE EXCITATION 80V/392

Abdumalya saak RUSK. Institut Pashcheyoy khimii

Problem Kinetics I: Catalysis. [c] 10; Mathia I. Gutschikshvily Institute
(Problems of Kinetics and Catalysis). [vol.] 10; Physics and Physical-
Chemistry of Catalysis. Moscow, 1960. 461 p. English
slip inserted. 2,500 copies printed.

Ms. I. 8.2. Regularly, Corresponding Member of the Academy of Sciences USSR and O.Y. Krylov, Candidate of Chemistry, V. G. Publishing House: A. L. Kharkovskiy, Tech. Sci. U.S.S.R. Academy.

PURPOSE: This collection of articles is addressed to physicists and chemists and to the community of scientists in general interested in recent research on the physics and physical chemistry of catalysis.

NOTICE: The articles in this collection were read at the conference on the Physical and Chemical Aspects of Catalysis organized by the Ozeai Khimicheskii Nauchnyi Tsentr (Section of Chemical Sciences, Academy of Sciences USSR) and the Academic Council on the Problem of the Scientific Basis for the Creation of Catalysts. The Conference was held at the Institute for Metals and Alloys (Institute of Physical Chemistry of the USSR Academy of Sciences) during the first volume of *Katalizatsiya* of this conference, only papers not published elsewhere were included in this collection.

III. SOME GENERAL PROBLEMS OF EVALUATION

Therrell, A.B. Spectroscopy of Simple Processes on the Surfaces of Various Catalysts 231

Catalogue Types of Active Complexes and Their Role in Heterogeneous Systems, T.A.S.

SECRET
CONFIDENTIAL

Steninger, Ed. {Kosherby Institute } Subsector Transport/Misc
Institute of Transportation Engineers } Some Problems of Organic Catalysts 24

Dr. Miron - Head of Department of Chemistry of Moscow State University]

Sokolov, E.Y. [Department of Chemistry of Moscow State University]
Effect of the Activity of Aluminosilicate Cracking Catalysts

CHITRY, H.M.
Institute of Chemical Physics at the Academy of Sciences of the USSR
The Relation of Heterogeneous Acid Catalysts and the Reaction of Heterogeneous Acid Catalysts

Testimony of Physical Chemistry of the AN IRM/ Catalytic

UNITED STATES
BUREAU OF SOLDIERS

Ewart, Miles, Karol Konforty, and V. J. Jermolov, "A New Class of Polymeric Catalysts for the Friedel-Crafts Alkylation of Benzene, Pyridine]. *Polymer Science Catalysis* for the Friedel-Crafts Alkylation of Benzene, Pyridine], *Polymer Science Catalysis* for the Friedel-Crafts Alkylation of Benzene, Pyridine]

Yonkers, N.Y., O. B. Kennells, and H. M. Chittow Institute of Chemical
and the Federal Compound

**Practices of the AS USAID, formerly was a representative
of Soviet Russia**

FILE NO. 7, V. 8, and D. 5. Syllabus [Department of Education in Germany]
UNIVERSITY OF SPOITZEL, UNIVERSITY OF THE ARMS IN Catania Agricoltura

Cecropia
Department of Mathematics of Fairleigh-Dale University
Rutherford, N. J. O. [University of Fairleigh-Dale University]

Phosphorylation of cytosolic proteins is a common cellular process

Iatig, I.J.; B.V. Dobroni'skiy, Ye. S. Lavr, A.M. Grish, V.A. Koshlora, I.O. Kozlov and Ye. V. Bakhom. Phenanthro-1,10-diol and its derivatives.

institute special salesmen (polytechnic, a. a. university, institute of specialized products and dyestuffs). The analog of Soviet

Address: Moscow, U.S.S.R., and S.T. Bogdanovskiy Institute of Physical Chemistry of the Academy of Sciences of the U.S.S.R., Moscow, U.S.S.R.

As Seen]. Experimental investigation on the catalytic activity of heterogeneous and heterogeneous acid base catalysts

Platonov, M.I. [VIII po perepiscnomu parte 1 gaza 1 polucheniya
izdatstva] shchego "oplyva (All-Union Scientific Research
Institute of the Ministry of the Interior)

Abstracts of Papers Presented at the 1964 Annual Meeting of the American Society of Animal Production

October, 1959. (All-Union Scientific Research Institute of Petroleum Refining and Synthetic Liquid Fuels. Acid Properties

Finishing and Cracking Capacity of Catalysts

FILIMONOV, V.N.

Theoretical investigation of the performance of double-action
pneumatic hammers. Nauch.zap.Od.politekh.inst. 14:27-41 '59.

(MIRA 14:3)

(Hammers--Testing)

FILIMONOV, V.N.; BYSTROV, D.S.

Spectral manifestations of the action of some aprotic catalysts.
Probl. kin. i kat. 10:291 '60. (MIRA 14:5)

1. Fizicheskiy fakul'tet Leningradskogo gosudarstvennogo universiteta.
(Catalysts—Spectra) (Halides)

68808

S/051/60/008/02/027/036

E201/E391

24.7700
24.3410

AUTHOR: Filimonov, V.N.

TITLE: Changes in the Infrared Absorption of Certain Semiconducting
Adsorbates on Illumination with Ultraviolet Light

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 2,
pp 270 - 272 (USSR)

ABSTRACT: In a preceding note (Ref 1) the author reported that
illumination of ZnO and TiO_2 with ultraviolet light
produces absorption in the infrared region and this
absorption decays slowly in vacuo when the ultraviolet
illumination ceases; the decay occurs much faster in
air or oxygen. This infrared absorption is due to an
increase in the concentration of free electrons on photo-
desorption of oxygen and is related to transitions of
electrons from donor levels to the conduction band or
transitions within that band. The present note describes
studies of infrared absorption produced by ultraviolet
illumination of WO_3 and SnO_2 , whose electrical conductivity
like the electrical conductivity of ZnO and TiO_2 , rose

Card1/4

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Changes in the Infrared Absorption of Certain Semiconducting
Adsorbates on Illumination with Ultraviolet Light

sharply on illumination with ultraviolet light in vacuo (Ref 6). WO_3 was prepared by decomposition of H_2WO_4 at 500°C ; WO_3 powder was deposited from alcohol suspension onto an NaCl plate. Samples of SnO_2 were prepared by heating to 500°C a mixture of SnCl_4 with ethanol deposited on an NaCl plate. Sample thickness was $2\text{--}3\text{ mg/cm}^2$. An infrared spectrometer IKS-14 with NaCl, LiF and F-1 prisms was employed. Figure 1 shows the change in transmission of WO_3 (at $5\,000\text{ cm}^{-1}$) and SnO_2 ($1\,300\text{ cm}^{-1}$) samples on illumination with light from a mercury lamp SVD-250 passed through glass and water filters. Figure 1 shows that ultraviolet irradiation of samples in vacuo produces infrared absorption which decays slowly when this irradiation ceases. If air or oxygen is let into the vacuum chamber the transmission of WO_3 quickly recovers its former value.

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Changes in the Infrared Absorption of Certain Semiconducting
Adsorbates on Illumination with Ultraviolet Light

In the case of SnO_2 the action of air or oxygen produces only a partial recovery of the original transmission. The infrared absorption spectra produced by ultraviolet illumination of WO_3 , SnO_2 and TiO_2 (Ref 1) in vacuo are shown in Figure 2 (the ordinate axis represents the ratio of the transmissions after and before illumination). The absorption of WO_3 has a wide band in the region 0.3 - 0.9 eV. The absorption maximum of SnO_2 lies approximately at 0.16 eV. In the case of TiO_2 both uniform absorption, extending from $3\,000\text{ cm}^{-1}$ to higher frequencies and a gradual rise of absorption at low frequencies were observed. Infrared absorption in WO_3 and SnO_2 is due to transitions of electrons from donor levels to the conduction band. The author points out that powder samples scattered light strongly and, therefore, only the change in infrared absorption produced by ultraviolet illumination was measured,

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Changes in the Infrared Absorption of Certain Semiconducting
Adsorbates on Illumination with Ultraviolet Light

i.e. the results obtained do not exclude the possibility
of infrared absorption by ZnO , TiO_2 , WO_3 and SnO_2 before
illumination with ultraviolet light. Acknowledgment is
made to A.N. Terenin for his advice.
There are 2 figures and 8 references, 4 of which are
Soviet, 2 Soviet and others, 1 English and 1 German. ✓

SUBMITTED: July 8, 1959

Card 4/4

S/051/60/009/004/007/034

E201/E191

AUTHORS: Bystrov, D.S., Sumarokova, T.N., and Filimonov, V.N.

TITLE: Infrared Absorption Spectra of Urea¹ and Thiourea¹
Complexes with Tin Chloride and Bromide

PERIODICAL: Optika i spektroskopiya, 1960, Vol 9, No 4, pp 460-466

TEXT: The authors studied the infrared absorption spectra of urea, $(\text{NH}_2)_2\text{CO}$, its three complexes, $2(\text{NH}_2)_2\text{CO} \cdot \text{SnCl}_4$, $(\text{NH}_2)_2\text{CO} \cdot \text{TiCl}_4$ and $2(\text{NH}_2)_2\text{CO} \cdot \text{SnBr}_4$, of thiourea $(\text{NH}_2)_2\text{CS}$, and its two complexes, $2(\text{NH}_2)_2\text{CS} \cdot \text{SnCl}_4$ and $2(\text{NH}_2)_2\text{CS} \cdot \text{SnBr}_4$. The purpose of the investigation was to find where metal halides were attached to urea and thiourea molecules and to find the effect of such attachment on the attached molecules. The infrared spectra were recorded using a technique described earlier (Ref 5). Thin layers of complexes were prepared by sublimation in vacuum (Refs 1, 2) or by interaction of sublimated layers of urea or thiourea with appropriate vapours (the latter method was used only for SnCl_4).

Card 1/2

S/051/60/009/004/007/034
E201/E191

Infrared Absorption Spectra of Urea and Thiourea Complexes with Tin Chloride and Bromide

The spectra were found to be independent of the method of preparation; they were recorded with an infrared spectrometer MKC-14 (IKS-14). The results for urea and its complexes are given in Tables 1 and 2 and Figs 1 and 2. The results for thiourea and its complexes are listed in Table 3 and shown in Fig 3. It was found that in urea complexes SnCl_4 and TiCl_4 were attached to oxygen, while SnBr_4 was attached to nitrogen. In thiourea complexes SnCl_4 and SnBr_4 were attached to sulphur.

Acknowledgements are made to A.N. Terenin who directed this work. There are 3 figures, 3 tables and 17 references: 4 Soviet, 5 English, 1 French, 1 Swiss, 2 translations into Russian and 4 from international journals.

SUBMITTED: January 12, 1960

Card 2/2

PILIMONOV, V.N.

Changes in the infrared absorption of some semiconducting adsorb-
ents subjected to illumination with ultraviolet light. Opt. 1
spektr. 8 no.2:270-272 F '60. (MIRA 13:10)
(Semiconductors--Spectra) (Adsorbents--Spectra)
(Ultraviolet rays)

RYSTROV, D.S.; SUMAROKOVA, T.N.; FILIMONOV, V.N.

Infrared absorption spectra of complexes of urea and thiourea with
stannic chloride and bromide. Opt.1 spektr. 9 no.4:46--466 0
'60. (MIRA 13:11)

(Tin compounds--Spectra)

IMEDADZE, V.V.; SAAKYAN, E.A.; CHAKHIROV, N.S.; FILIMONOV, V.N.

Correlation recorder using transistor and ferrite cells. Trudy
Inst. elek., avtom. i telem. AN Gruz. SSR 3:35-46 '62. (MIRA 15:5)
(Information theory)

hl5h 3
S/020/62/147/006/028/034
B144/B186

15.2100

AUTHORS: Alekseyev, A. V., Filimonov, V. N., Terenin, A. N.,
Academician

TITLE: Infra-red spectra of nitrous oxide adsorbed on synthetic
zeolites

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 6, 1962, 1392 -
1395

TEXT: The adsorption of NO on synthetic A and X type zeolites, in Na and Ca forms with pore diameters of 4 and 5 Å and on natural zeolites such as natrolite and desmine, was studied by IR spectroscopy. The presence of adsorption centers and the formation of intermediate products needs clearing up. The spectra were recorded in the 2400 - 1200 cm^{-1} range on powdered zeolites placed between fluorite plates with intermediate aluminum foils, and subjected to a vacuum pretreatment of 4 - 8 hrs at 400°C. The final gas pressure of 40 mm Hg excluded the recording of gaseous NO which has a band at 1876 cm^{-1} . A comparison between the spectra of the pure zeolites and those resulting after NO adsorption showed bands shifted by more than 300 cm^{-1} to the right and Card. 1/3

Infra-red spectra of nitrous oxide ...

S/020/62/147/006/028/034
B144/B186

to the left of the NO band, revealing the formation of other nitrogen oxides. This was verified, by recording the IR spectra of N_2O and NO_2 adsorbed on a CaA zeolite. The bands at 2250, 1300 and all low-frequency bands belong undoubtedly to N_2O forming by the reaction:

$2NO_{ads} \rightarrow N_2O_{ads} + O_{ads}$. Unlike the 1616 and 1322 cm^{-1} bands of gaseous NO_2 , the IR spectrum of the adsorbed NO_2 shows bands at 1350 - 1490 cm^{-1} due to the formation of the NO_3^- group, and bands at 1940 and 2110 cm^{-1} resulting from a decomposition of the NO_2 molecule with formation of chemisorbed NO. This agrees with published data on the ionic form NO^+ (2100 - 2400 cm^{-1}) and the coordination bond of NO with electrophilic centers (1940 cm^{-1}). Thus the presence of electrophilic and electron-acceptor centers can be assumed on the surface of these zeolites. There are 3 figures.

Card 2/3

Infra-red spectra of nitrous oxide ...

S/020/62/147/006/028/034
B144/B186

ASSOCIATION: Nauchno-issledovatel'skiy fizicheskiy institut Leningradskogo gosudarstvennogo universiteta im. A. A. Zhdanova
(Scientific Research Physics Institute of the Leningrad State University imeni A. A. Zhdanov)

SUBMITTED: July 30, 1962

Card 3/3

FILIMONOV, V.N.

Reaction of oxygen with MnO , Fe_2O_3 and Cr_2O_3 studied from their
absorption spectra in the infrared. *Kin. i kat.* 4 no.3:367-372
My-Je '63. (MIRA 16:7)

1. Nauchno-issledovatel'skiy fizicheskiy institut, Leningradskiy
universitet.

(Metallic oxides--Absorption spectra)
(Oxygen)

FILIMONOV, V.N.

Photocatalytic oxidation of gaseous isopropanol on ZnO and
TiO₂. Dokl. AN SSSR 154 no.4:922-925 F '64.

(MIRA 17:3)

1. Nauchno-issledovatel'skiy fizicheskiy institut Leningrad-
skogo gosudarstvennogo universiteta im. A.A. Zhdanova.
Predstavleno akademikom A.N. Tereninym.

BORESKOV, G.K.; SHCHEKUCHIKHIN, Yu.M.; MAKAROV, A.D.; FILIMONOV, V.N.

Use of infrared absorption spectra in studying the structure
of surface compounds formed during adsorption of ethanol on
 γ -oxide of aluminum. Dokl. AN SSSR 156 no. 4:901-904 Je '64.
(MIRA 17:6)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR i Leningradskiy
gosudarstvennyy universitet im. A.A.Zhdanova. 2. Chlen-korrespondent
AN SSSR (for Boreskov).

FLAMMANN, V.N.

Photocatalytic oxidation of organic compounds on ZnO , TiO_2 , Al_2O_3 ,
and SiO_2 as determined from the absorption spectra of adsorbed
molecules in the infrared. Dokl. AN SSSR 158 no.6:1408-1411
C 164. (MIRA 17:12)

1. Nauchno-issledovatel'skiy fizicheskii institut Leningr. skogo
gosudarstvennogo universiteta im. A.A. Zhdanova. Predavatel
akademikom A.N. Terent'ym.

KALAIKISHVILI, N.I.; FILIMONOV, V.N.

Device for discrete telemetering of liquid level. Priborostroyeniye
no.7:10-12 J1 '64. (MIRA 17:11)

ACC NR: AP5026559

SOURCE CODE: UR/0286/65/000/019/0114/0114

INVENTOR: Gafanovich, A. A.; Zanin, A. V.; Vidishev, B. G.; ~~Fillimonov, V. N.~~

ORG: none

TITLE: Cardan shaft with protective housing. Class 47, No. 175358

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 114

TOPIC TAGS: Cardan shaft, universal joint

ABSTRACT: An Author Certificate has been issued for a Cardan shaft consisting of a protective housing in the form of a telescoping tube with hemispheres, a shaft, and joints with grooved yokes. To better protect the Cardan shaft and prevent the housing's rotation, the housing is equipped with outer hemispheres connected to inner hemispheres by rings located in the universal joint's plane of vibration (See Fig. 1) and mounted on sealed ball bearings installed on the hubs of the grooved

Card 1/2

UDC: 621—76—233.1.825.6

ACC NR: AP5026559

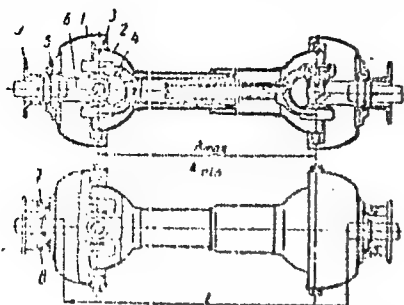


Fig. 1. Cardan shaft with protective housing

1 - Outer hemisphere; 2 - inner hemisphere; 3 - ring; 4 - joint; 5 - sealed bearing; 6 - grooved yoke; 7 - ears; 8 - lugs; 9 - connecting flange.

yokes. To prevent the Cardan shaft from operating without the protective housing, the outer hemispheres are fitted with ears for connection with the appropriate lug of the connecting flange. Orig. art. has: 1 figure. [KT]

SUB CODE: IE/ SUBM DATE: 13Nov63/ ATD PRESS: 4137.

Card 2/2

VERSHININ, Ye.A.; FILIMONOV, V.N.; KISLYAKOV, L.D.; CHVANOV, P.A.;
BELIAYEV, M.A.; KORCEKOV, V.P.

Efficient flotation flow chart for collective concentrates at the
Sibay plant. TSvet. met. 38 no.4:14-17 Ap '65. (MIRA 18:5)

FILIMONOV, V.N.; BYSTROV, D.S.

Change in the vibrational frequencies of nitrogen-containing compounds associated with a change in the orbital hybridization of nitrogen in donor-acceptor interaction. Opt. i spektr. 12 no.1:66-72 Ja '62. (MIRA 15:2)

(Quantum theory)
(Nitrogen)

KHOKHLOV, Yu.I.; FILIMONOV, V.P.

Combination hot chrome-tanning of leather for shoe uppers.

Leg.prom. 17 no.8:48-49 Ag '57.

(MIRA 10:10)

(Tanning)

PETRUSENKO, V.G.; SHOSTYA, I.V.; OKUNEVA, Z.S.; PRIBITKOVA, Yu.V.;
FILLIMONOV, V.B.; POLIYEKTOVA, A.M.; CHERNISHOVA, N.P.; ISAYCHENKO,
M.M., red.; LINKOV, G., tekhn.red.

[Economy of Cherkassy Province; statistical collection] Narodno
hospodars'tvo Cherkas'koi oblasti; statystychnyi zbirnyk. Cherkasy,
1957. 126 p. (MIRA 12:11)

1.. Cherkassy (Province) Statisticheskoye upravleniye. 2. Nachal'nik
Statisticheskogo Upravleniya Cherkasskoy oblasti (for Isaychenko).
(Cherkassy Province--Statistics)

AUTHORS: Filimonov, V. P., Nikol'skiy, K. M. 50-58-4-4/26

TITLE: On the Scale of Fire Susceptibility and the Forecast of Fire Danger in Forests (O shkale gorimosti i prognozhakh pozharoopasnosti v lesu)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 4, pp. 38-39 (USSR)

ABSTRACT: For the determination of the probability of the rising of forest fires is used, as is known, such a scale. It is based upon a complex index of the susceptibility for fire, which was worked out by professor Nesterov. This index is a product of the air temperature at 1300 hours multiplied by the saturation deficit. The sum of such indices for a number of days, at which no rain has brought more than 3 mm precipitation, characterize the degree of fire susceptibility, which according to the value of this sum belongs to one of the fire susceptibility classes. The computation of this coefficient together with the specialized fire susceptibility forecast is a big step forward in the forest fire prevention, though this method also has some deficiencies. Above all there is no good correlation between the repetition frequency of the forest fires and the corresponding fire susceptibility

Card 1/3

On the Scale of Fire Susceptibility and the Forecast of Fire 50-58-4-14/26
Danger in Forests

classes, which are determined by means of the mentioned method. Season particularities of the rising of fires are not considered, especially not in spring, when they arise at a low value of the fire susceptibility index. The wind velocity, which plays a role in the fire expansion, is not considered. The fixed criterion of the removal of the fire danger - the precipitation quantity of 3 mm, is not brought into connection with a precedent period of aridity. Besides precipitation quantities above 3 mm are not considered. B. L. Dandre (ref. 1) suggests a fire susceptibility scale and fire danger classes of a somewhat different types. Instead of the product here the sum of the air temperature and the saturation deficit is used. The class-scale here is based upon the season principle. Separated for spring and summer. Thereby the forest fire danger is to increase with a considerably lower fire susceptibility index. A special coefficient is introduced, by which the fallen precipitations (in mm) are multiplied. Also a so called negative fire susceptibility was introduced, which characterizes the moisture degree of the litter of leaves. A scale of the extinguishing of the negative fire susceptibility is worked

Card 2/3

On the Scale of Fire Susceptibility and the Forecast of Fire 50-53-4-14/26
Danger in Forests

out. It indicates the day on which, after the rising of the negative susceptibility, a fire can rise. Corrections for the wind velocity are introduced. Therefore the scale by Dandre comes much closer to the conditions, which really prevail in forests. By several examples of application in the woods of the Tuvinskiy autonomous district the author could convince himself of the advantages of the method by Dandre. There are 1 table and 1 reference, which is Soviet.

AVAILABLE: Library of Congress

1. Forest fires - Statistical analysis

Card 3/3

LYUTTSAU, Aleksey Grigor'yevich; MER, N.I.; MERRO, Ye.M.; RYBIN, N.G.;
ROZENVASSER, M.A.; SOLOV'YEV, S.N.; FILIMONOV, V.P.;
SHAROYKO, V.V.; MEREZHKO, V.G., retsenzent; USENKO, L.A.,
tekhn. red.

[On the road of great initiative] Po puti velikogo pochina.
Moskva, Transzheldorizdat, 1961. 75 p. (MIRA 15:2)

1. Zamestitel' nachal'nika Glavnogo upravleniya lokomotivnogo
khozyaystva Ministerstva putey soobshcheniya (for Merezhko).
(Railroads—Employees—Labor productivity)

FILIMONOV, V.P., inzh.; ROZENVASSER, M.A.

A "popular university" in the repair shop of Moskva-Sortirovochnaya.
Elek. i tepl. tiaga 6 no.11:5-6 N '62. (MIRA 16:1)

1. Chlen soveta Narodnogo universiteta v depo Moskva-Sortirovochnaya
(for Filimonov). 2. Otvetstvennyy sekretar' gazety "Pervyy
subbothik" (for Rozenvasser).
(Railroads—Employees) (Railroads—Repair shops)

GITEL'ZON, I.I.; BAKLANOV, O.G.; FILIMONOV, V.S.; ARTEMKIN, A.S.;
SHATOKHIN, V.F.

Bioluminescence as a hydrooptic and biological factor in a
sea. Trudy MOIP. Otd. biol. 21:147-155 '65. (MIRA 18:6)

LIKHORADOV, A.P.; ZHIGULIN, V.I.; ZHEMBUS, M.D.; RUDAKOV, V.F.; KOTOV, K.I.;
ZHAK, A.M.; TSYMBALYUK, V.Yu.; FILIMONOV, V.V.

Service of the lining and cooling equipment of a blast furnace
in the smelting of ferromanganese. Metallurg 10 no.10:12-14
0 '65. (MIRA 18:10)

1. Zavod im. Petrovskogo.

VAL'SHTEYN, G.I.; KLEYMENOV, V.P.; FILIMONOV, Ya.G.

Investigating efficient parameters of the rod bolting of stopes
in the Dzhezkazgan Mine. Nauch. trudy KNIUI no.14;291-298 '64.
(MIRA 18:4)

СИБИРЬ, Урал.

Continuous line for the manufacture of core blocks. Sber. st.
NIITIAZHMASHa Uralmashzavoda no.9:55-78 '65.

Mechanized permanent molding pit for assembling molds from
standardized core blocks. Ibid.:79-87

(MIRA 18:8)

FILIMONOV, Yu.F., inzh.

Impact extrusion of bars and hollow parts. [Nauch. trudy]
ENIKMASHa 3:38-53 '60. (MIRA 14:1)
(Extrusion (Metals))

S/182/60/000/012/001/010
A161/A030

AUTHOR: Fillimonov. Yu.F.

TITLE: Experience With Cold Extrusion of Steel Parts

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No.12, pp.1-5

TEXT: Cold extrusion of automobile and tractor parts has been studied in laboratory experiments, and the process is coming into use at the Minskiy traktorny zavod (Minsk Tractor Plant) and at Kuybyshevskiy zavod avtotraktornogo elektrooborudovaniya (Kuybyshev Automobile and Tractor Electric Equipment Plant). Six cold-extruded steel parts are illustrated (Fig.1) and dies used for them shown in detailed drawings (Fig. 2). The adapter, nipple, spring disc and pinion (Fig.1, a, b, c, and d) are produced in one single operation, the regulator disc and the pusher (e and f) in two operations. The bottom die design with outer casings has proven successful - dies did not need to be replaced after extrusion of 5,000 adapters and 7,500 spring discs from "20" steel. Allowances used for single-casing bottom dies (Fig.2, a, b, c) were 0.3 - 0.4 mm (at 60 - 70 mm joint diam-

Card 1/5

Experience With Cold Extrusion of Steel Parts

S/182/60/000/012/001/010
A161/A030

eter and 120 - 150 mm outer diameter), and for multicasing dies 0.2 - 0.3, 0.5 - 0.7, and 0.8 - 1.0 mm from the outer casing to the inner. The work portions of the dies were made of X12Φ1 (Kh12F1) steel and hardened to HRC 58-60. The single-casing die casings of 40X (40Kh) or "45" steel were hardened to HRC 40-42 and heated to 300°C for setting on the work parts; the casings for multicasing dies were of different steel and quenched to hardness decreasing from the outer to the inner casing, provided with 1.5° taper and pressed on cold. The work part of the pinion die (Fig.2,) was made by slotting and calibrated with a master punch. The spring disc and the pusher could not be extruded from all steel grades tried, as the punch broke on some. The effect of the gauging belt height (h) (3, 8, 15 and 25 mm) on the work pressure was significant at a low-speed in the test machine (increasing "h" height raised 20-30% the extrusion effort), but in the "K682" crank press making 90 strokes a minute it was practically negligible, but it affected the accuracy of pin type parts (e.g., the adapter). In this case the "h" must equal the bed die diameter; the accuracy of tubular parts (nipple) also rose with increased "h" belt height. In reverse extrusion of cups on a П457 (P457) press with 3 mm/sec speed it had no effect and could be in the range from 0.1 to 0.3 of D_n .

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Experience With Cold Extrusion of Steel Parts

It is recommended to calculate the press effort using the formulae (not included in the article) of works (Ref.1, 4 and 5) (1 - V.Ye.Favorskiy; 4 - S.I.Gubkin; 5 - G.P.Bol'shakov). S.I.Gubkin's method (Ref.7) has been used for calculating the mean metal hardening in the deformation focus; the friction factor was assumed to be 0.1 for all cases. It has been revealed that phosphate-coating reduced friction better than electrolytic copper or zinc coating. In all experiments the blanks were dipped for 10-12 min into a bath containing 65-100 cm³/liter phosphating concentrate and 1-2 g/liter sodium nitrate and heated to 60-70°C. The phosphating concentrate consisted of 200 g/liter zinc oxide, 250 cm³/liter nitric acid (of 1.34-1.36 density) and 180 cm³/liter orthophosphoric acid (1.7 - 1.8 density). Phosphate coated blanks were immersed for 10 min into soap emulsion with water, with 58-60 g/liter fatty acids in emulsion heated to 70°C. The Minsk Tractor Plant has started the series output of cold-extruded parts. The dies for adapters and spring discs outlast 10-15 thousand operations; the punches lasted for 3,000 operations in the first lot of pushers from "20" steel. There are 5 figures and 8 references: 7 Soviet and 1 Czech.

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Experience With Cold Extrusion of Steel Parts

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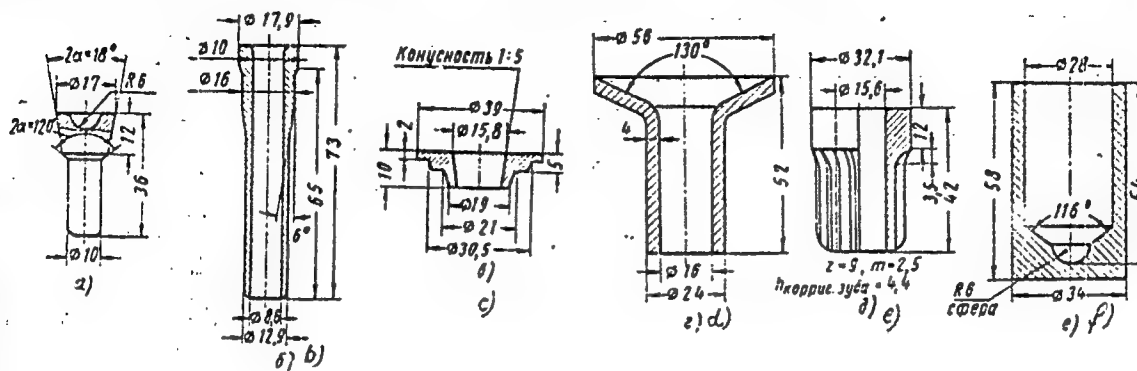


Fig.1: a - adapter; b - nipple; c - spring disc; d - regulator disc; e - pinion; f - pusher.

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ACCESSION NR AM4021941

BOOK EXPLOITATION

S/

Filimonov, YU. F. (Engineer); Poznyak, L. A. (Candidate of Technical Sciences)

Stamping by extrusion (Shtampovka pressovaniyem), Moscow, izd-vo "Mashinostroyeniya", 1964, 187 p. illus., biblio. 5,000 copies printed.

TOPIC TAGS: metallurgy, metal working, extrusion, steel, metalworking equipment

PURPOSE AND COVERAGE: The book describes the features of the process of cold extrusion of steel parts. It cites experience in mastering technology of cold pressing of parts at a number of plants and also analyzes literature data on this question. Various types of designs of dies and rams and the characteristics of the equipment are discussed. The book is intended for engineers and researchers in the field of metal working by pressure; the book can also be used by students in technical higher educational institutions.

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Ch. VII. Materials for the dies -- 107
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Ch. IX. Mechanization and automation of cold extrusion -- 151
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extrusion of basic types of articles -- 172
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SUB CODE: MM

SUBMITTED: 11Feb64

NR REF SOV: 057

OTHER: 032

DATE ACQ: 04Jun64

Cord 2/2

FILIMONOV, Yu.F., inzh.; POZNYAK, L.A., kand. tekhn. nauk;
MISOZHNIKOV, V.M., kand. tekhn. nauk, retsenzent; BABENKO,
V.A., inzh., red.

[Forging by extrusion] Shtampovka pressovaniem. Moskva, Mashinostroenie, 1964. 187 p. (MIRA 17:5)

L-355h2-65 EAT(a)/FSS-2/EEC(k)-2/EEC-l/EEC(t) Pn-l/Po-l/Pp-l/Pq-l/Pac-l/Pg-l/
ACCESSION NR: AP5008156 Pk-l/Pl-l S/0286/65/000/005/0036/0036

AUTHORS: Kordobovskiy, A. I.; Filimonov, Yu. F.

TITLE: A device for measuring maximal marginal distortion of telegraph signals.
Class 21, No. 168749

SOURCE: Byulleten' izobretaniy i tovarnykh znakov, no. 5, 1965, 36

TOPIC TAGS: telegraph signal, signal distortion

ABSTRACT: This Author Certificate presents a device for measuring the maximal marginal distortion of telegraph signals with start-stop and synchronous distribution, nodal coincidence, and an indicator assemblage made up of discrete elements. For determining the maximal measured value of distortion at any given time interval, up to the moment of break, a recording assemblage, made up of ferrite-transistor trigger elements, is placed between the coincidence node and the indicator unit. In order to compute the maximal distortion for each individual cycle, the circuit for returning to the initial state (break) of the recording-unit triggers is closed periodically, in time with the distributor. In order to determine the values of all distortions appearing during time of measurement, the power supply, in addition to the breaking circuit, is fed directly from the

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ACCESSION NR: AP5Q08156

negative side of the battery. This is effected by means of the switch of the recording unit.

ASSOCIATION: none

SUBMITTED: 03May61

ENCL: 00

SUB CODE: EG

NO REF SOV: 000

OTHER: 000

Card 2/2

13-00000-01 000(a)/000(b)/000(c)/000(d) 131(c) FOR/JD/AM/AM
 ACC NR: AR6013846 (A, N) SOURCE CODE: UR/0276/65/000/011/V009/V009

AUTHORS: Deordiyov, N. T.; Filimonov, Yu. F.

TITLE: Multi-pass reduction with limit deformation

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 11V65

REF SOURCE: Materialy Eksperim. n.-i. in-ta kuznechno-pres. mashinostr., vyp. 12, 1965, 44-50

TOPIC TAGS: metal forming, metal rolling

ABSTRACT: Experimental investigation of the multi-pass reduction process has confirmed the tendency towards increased limit deformations with increased number of cycles. A nomogram is constructed for finding the diameter increments of the blank for multi-pass reduction, considering limit deformations of the order of 15%. The equation for finding the power required for multi-pass reduction is derived. Graphs of the average axial stresses in the blank are constructed as a function of degree of deformation and number of passes. 3 illustrations. Bibliography of 5 titles. I. Gendlina [Translation of abstract]

SUB CODE: 13, 11
 Card 1/1

UDC: 621.986

universal presses for cold forming

14455 PM

Experimental, very much improved valve, etc. not in a checkbook

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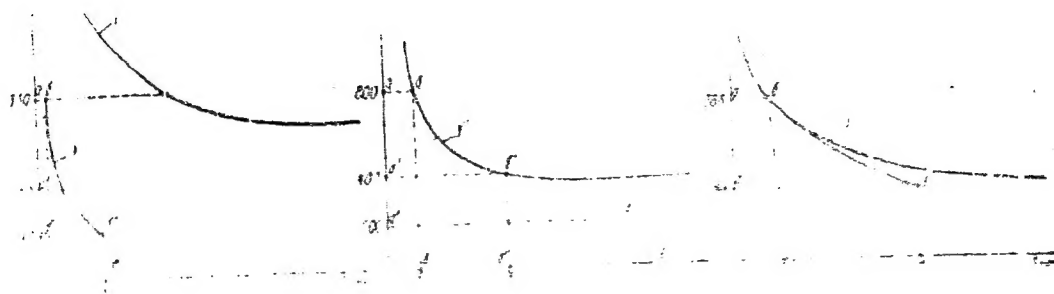
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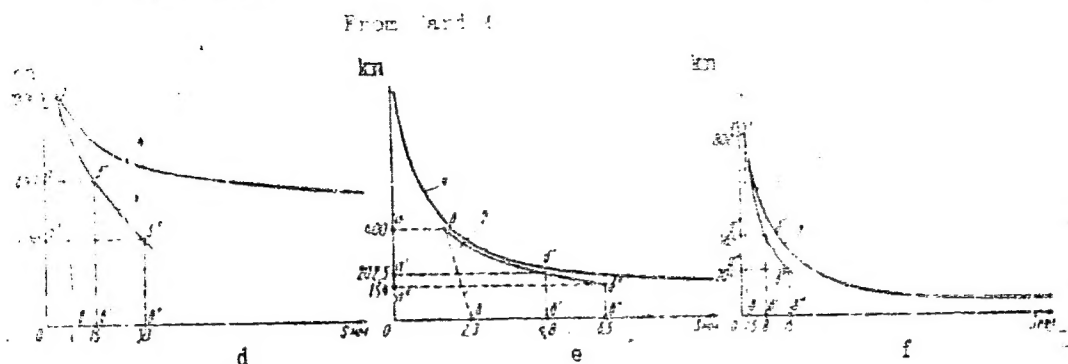


Fig. 2. Characteristic load-stroke capabilities of mechanical presses:
1 - presses KA262, KA201, KA62, KA63, K-44E; 2 - K-44E; 3 - K-44E; 4 - K-44E; 5 - K-44E; 6 - K-44E; 7 - K-44E; 8 - K-44E; 9 - K-44E; 10 - K-44E; 11 - K-44E; 12 - K-44E; 13 - K-44E; 14 - K-44E; 15 - K-44E; 16 - K-44E; 17 - K-44E; 18 - K-44E; 19 - K-44E; 20 - K-44E; 21 - K-44E; 22 - K-44E; 23 - K-44E; 24 - K-44E; 25 - K-44E; 26 - K-44E; 27 - K-44E; 28 - K-44E; 29 - K-44E; 30 - K-44E; 31 - K-44E; 32 - K-44E; 33 - K-44E; 34 - K-44E; 35 - K-44E; 36 - K-44E; 37 - K-44E; 38 - K-44E; 39 - K-44E; 40 - K-44E; 41 - K-44E; 42 - K-44E; 43 - K-44E; 44 - K-44E; 45 - K-44E; 46 - K-44E; 47 - K-44E; 48 - K-44E; 49 - K-44E; 50 - K-44E; 51 - K-44E; 52 - K-44E; 53 - K-44E; 54 - K-44E; 55 - K-44E; 56 - K-44E; 57 - K-44E; 58 - K-44E; 59 - K-44E; 60 - K-44E; 61 - K-44E; 62 - K-44E; 63 - K-44E; 64 - K-44E; 65 - K-44E; 66 - K-44E; 67 - K-44E; 68 - K-44E; 69 - K-44E; 70 - K-44E; 71 - K-44E; 72 - K-44E; 73 - K-44E; 74 - K-44E; 75 - K-44E; 76 - K-44E; 77 - K-44E; 78 - K-44E; 79 - K-44E; 80 - K-44E; 81 - K-44E; 82 - K-44E; 83 - K-44E; 84 - K-44E; 85 - K-44E; 86 - K-44E; 87 - K-44E; 88 - K-44E; 89 - K-44E; 90 - K-44E; 91 - K-44E; 92 - K-44E; 93 - K-44E; 94 - K-44E; 95 - K-44E; 96 - K-44E; 97 - K-44E; 98 - K-44E; 99 - K-44E; 100 - K-44E; 101 - K-44E; 102 - K-44E; 103 - K-44E; 104 - K-44E; 105 - K-44E; 106 - K-44E; 107 - K-44E; 108 - K-44E; 109 - K-44E; 110 - K-44E; 111 - K-44E; 112 - K-44E; 113 - K-44E; 114 - K-44E; 115 - K-44E; 116 - K-44E; 117 - K-44E; 118 - K-44E; 119 - K-44E; 120 - K-44E; 121 - K-44E; 122 - K-44E; 123 - K-44E; 124 - K-44E; 125 - K-44E; 126 - K-44E; 127 - K-44E; 128 - K-44E; 129 - K-44E; 130 - K-44E; 131 - K-44E; 132 - K-44E; 133 - K-44E; 134 - K-44E; 135 - K-44E; 136 - K-44E; 137 - K-44E; 138 - K-44E; 139 - K-44E; 140 - K-44E; 141 - K-44E; 142 - K-44E; 143 - K-44E; 144 - K-44E; 145 - K-44E; 146 - K-44E; 147 - K-44E; 148 - K-44E; 149 - K-44E; 150 - K-44E; 151 - K-44E; 152 - K-44E; 153 - K-44E; 154 - K-44E; 155 - K-44E; 156 - K-44E; 157 - K-44E; 158 - K-44E; 159 - K-44E; 160 - K-44E; 161 - K-44E; 162 - K-44E; 163 - K-44E; 164 - K-44E; 165 - K-44E; 166 - K-44E; 167 - K-44E; 168 - K-44E; 169 - K-44E; 170 - K-44E; 171 - K-44E; 172 - K-44E; 173 - K-44E; 174 - K-44E; 175 - K-44E; 176 - K-44E; 177 - K-44E; 178 - K-44E; 179 - K-44E; 180 - K-44E; 181 - K-44E; 182 - K-44E; 183 - K-44E; 184 - K-44E; 185 - K-44E; 186 - K-44E; 187 - K-44E; 188 - K-44E; 189 - K-44E; 190 - K-44E; 191 - K-44E; 192 - K-44E; 193 - K-44E; 194 - K-44E; 195 - K-44E; 196 - K-44E; 197 - K-44E; 198 - K-44E; 199 - K-44E; 200 - K-44E; 201 - K-44E; 202 - K-44E; 203 - K-44E; 204 - K-44E; 205 - K-44E; 206 - K-44E; 207 - K-44E; 208 - K-44E; 209 - K-44E; 210 - K-44E; 211 - K-44E; 212 - K-44E; 213 - K-44E; 214 - K-44E; 215 - K-44E; 216 - K-44E; 217 - K-44E; 218 - K-44E; 219 - K-44E; 220 - K-44E; 221 - K-44E; 222 - K-44E; 223 - K-44E; 224 - K-44E; 225 - K-44E; 226 - K-44E; 227 - K-44E; 228 - K-44E; 229 - K-44E; 230 - K-44E; 231 - K-44E; 232 - K-44E; 233 - K-44E; 234 - K-44E; 235 - K-44E; 236 - K-44E; 237 - K-44E; 238 - K-44E; 239 - K-44E; 240 - K-44E; 241 - K-44E; 242 - K-44E; 243 - K-44E; 244 - K-44E; 245 - K-44E; 246 - K-44E; 247 - K-44E; 248 - K-44E; 249 - K-44E; 250 - K-44E; 251 - K-44E; 252 - K-44E; 253 - K-44E; 254 - K-44E; 255 - K-44E; 256 - K-44E; 257 - K-44E; 258 - K-44E; 259 - K-44E; 260 - K-44E; 261 - K-44E; 262 - K-44E; 263 - K-44E; 264 - K-44E; 265 - K-44E; 266 - K-44E; 267 - K-44E; 268 - K-44E; 269 - K-44E; 270 - K-44E; 271 - K-44E; 272 - K-44E; 273 - K-44E; 274 - K-44E; 275 - K-44E; 276 - K-44E; 277 - K-44E; 278 - K-44E; 279 - K-44E; 280 - K-44E; 281 - K-44E; 282 - K-44E; 283 - K-44E; 284 - K-44E; 285 - K-44E; 286 - K-44E; 287 - K-44E; 288 - K-44E; 289 - K-44E; 290 - K-44E; 291 - K-44E; 292 - K-44E; 293 - K-44E; 294 - K-44E; 295 - K-44E; 296 - K-44E; 297 - K-44E; 298 - K-44E; 299 - K-44E; 300 - K-44E; 301 - K-44E; 302 - K-44E; 303 - K-44E; 304 - K-44E; 305 - K-44E; 306 - K-44E; 307 - K-44E; 308 - K-44E; 309 - K-44E; 310 - K-44E; 311 - K-44E; 312 - K-44E; 313 - K-44E; 314 - K-44E; 315 - K-44E; 316 - K-44E; 317 - K-44E; 318 - K-44E; 319 - K-44E; 320 - K-44E; 321 - K-44E; 322 - K-44E; 323 - K-44E; 324 - K-44E; 325 - K-44E; 326 - K-44E; 327 - K-44E; 328 - K-44E; 329 - K-44E; 330 - K-44E; 331 - K-44E; 332 - K-44E; 333 - K-44E; 334 - K-44E; 335 - K-44E; 336 - K-44E; 337 - K-44E; 338 - K-44E; 339 - K-44E; 340 - K-44E; 341 - K-44E; 342 - K-44E; 343 - K-44E; 344 - K-44E; 345 - K-44E; 346 - K-44E; 347 - K-44E; 348 - K-44E; 349 - K-44E; 350 - K-44E; 351 - K-44E; 352 - K-44E; 353 - K-44E; 354 - K-44E; 355 - K-44E; 356 - K-44E; 357 - K-44E; 358 - K-44E; 359 - K-44E; 360 - K-44E; 361 - K-44E; 362 - K-44E; 363 - K-44E; 364 - K-44E; 365 - K-44E; 366 - K-44E; 367 - K-44E; 368 - K-44E; 369 - K-44E; 370 - K-44E; 371 - K-44E; 372 - K-44E; 373 - K-44E; 374 - K-44E; 375 - K-44E; 376 - K-44E; 377 - K-44E; 378 - K-44E; 379 - K-44

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APOSTOLOV, B.G.; FILIMONOV, Yu.A.

Data on the phagocytic reaction of the blood in colienteritis
in infants. Vop. okh. mat. i det. 6 no.3:38-42 Mr '61.

(MIRA 14:10)

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Apostolov) Stavropol'skogo meditsinskogo instituta (direktor - prof.
V.G.Budylin).

(INTESTINES--DISEASES)

(PHAGOCYTOSIS)

FILIMONOV, Yu.A.

Phagocytic index of the blood in relation to the pathogenic strains of Escherichia coli and some other antigens in healthy children. Uch. zap. Stavr. gos. med. inst. 12: 375-376 '63.

Clinical picture, course, pathomorphological changes and dynamics of the phagocytic index in experimental colienteritis. Ibid.:377-378

Specificity of the phagocytic reaction of the blood in colienteritis in young children. Ibid.:379-380

Diagnostic importance of the phagocytic reaction of the blood in colienteritis in children. Ibid.:381-382

Dynamics of the phagocytic index of the blood in relation to pathogenic serotypes of Escherichia coli in children with gastrointestinal diseases in case of negative results of bacteriological examinations. Ibid.:383 (MIRA 17:9)

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